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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/828,519      | 04/06/2001  | Andrew W. Lo         | 1869-003A           | 6245             |

7590

09/17/2002

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EXAMINER

FELTEN, DANIEL S

ART UNIT

PAPER NUMBER

3624

DATE MAILED: 09/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/282,519

Applicant(s)  
Lo et al

Examiner  
Daniel Felten

Art Unit  
3624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 6, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

1  
2 1. It is acknowledged that the present application relies and is based upon the Provisional  
3 Application No. 60/195,540 filed on April 7, 2000 entitled, "Foundation of Technical  
4 Analysis: Computational Algorithms, Statistical Inference, and Empirical implementation"

### *Claim Rejections - 35 USC § 103*

5  
6  
7 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
8 obviousness rejections set forth in this Office action:

9 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in  
10 section 102 of this title, if the differences between the subject matter sought to be patented and the prior art  
11 are such that the subject matter as a whole would have been obvious at the time the invention was made to a  
12 person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be  
13 negated by the manner in which the invention was made.

14  
15 3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al  
16 (hereinafter "Black", US 6,012,042).

17  
18 Black discloses a system for processing price data corresponding to a sequence of time  
19 for a selected interval, the system comprising:

20 a database means (12--Technical data storage device, or 16--fundamental data storage  
21 device) for storing said price data in system addressable format, wherein said price data is  
22 organized for processing into non-linear relationship (see Black, fig. 1, col. 4, ll. 20+);

1 a data processor (*10--Data Conversion Apparatus*) responsive to price data stored in  
2 the database and capable of generating the non-linear relationship (see Black, fig. 1, col. 4, ll.  
3 45+);

4 Black fails to disclose having a pattern recognition processor to discern the existence of  
5 one or more patterns of price-time data and generating a results output based on a recognition  
6 of the pattern. Waite discloses using pattern recognition for prediction and correlation of  
7 various forms of data within a database (see Waite, Abstract; col. 1, ll. 55-70; and col. 3, ll.  
8 41-55). Since Black teaches that a user, incorporating the subject matter of the invention, is  
9 able to choose from a variety of technical and fundamental analysis techniques and  
10 technologies (see Black, col. 10, ll. 57-67), it would have been obvious for an artisan at the  
11 time of the invention of Black to integrate the various pattern identification/recognition  
12 algorithms disclosed by Waite into the Black system to provide technical analysis of the price  
13 data. Thus such a modification would have been an obvious expedient well within the ordinary  
14 skill in the art.

### 15 16 *Conclusion*

17  
18 4. A list of relevant prior art appears below not relied upon in this Office Action:

#### 19 **US Patents:**

20 Ray et al (US 6,018,722) discloses a S.E.C. Registered individual account investment advisor  
21 expert system

22 Gopinathan et al (US 6,330,546 B1) discloses risk determination and management using  
23 predictive modeling and transaction profiles for individual transacting entities

1 Nevo et al (US 5,946,666) discloses monitoring device for financial securities

2 Lo et al (US 2002/0007331 A1) discloses data processor for implementing forecasting algorithms

3 Steidlmyer et al (US 5,454,104) discloses financial data event flow analysis system with study  
4 with study conductor display

5 Negishi (US 5,444,819) discloses economic phenomenon predicting and analyzing system using  
6 neural network

7 5. Any inquiry concerning this communication or earlier communications from the examiner  
8 should be directed to **Daniel S. Felten** whose telephone number is (703) 305-0724. The  
9 examiner can normally be reached between the hours of 7:00AM to 5:30PM Monday-Thursday.  
10 Any inquiry of a general nature relating to the status of this application or its proceedings should  
11 be directed to the Customer Service Office (703) 306-5631, or the examiner's supervisor  
12 **Vincent Millin** whose telephone number is (703) 308-1065.

13  
14 6. Response to this action should be mailed to:

15  
16 Commissioner of Patents and Trademarks

17 Washington, D.C. 20231

18  
19 for formal communications intended for entry, or (703) 305-0040, for informal or draft  
20 communications, please label "Proposed" or "Draft".

21 Communications via Internet e-mail regarding this application, other than those under 35  
22 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be  
23 addressed to [[daniel.felten@uspto.gov](mailto:daniel.felten@uspto.gov)].

24 All Internet e-mail communications will be made of record in the application file. PTO  
25 employees do not engage in Internet communications where there exists a possibility that  
26 sensitive information could be identified or exchanged unless the record includes a properly

Serial Number: 09/828,519

Applicant(s): Lo et al. ( 705/36 )

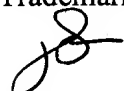
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Representative: Bollinger (32,555)

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1 signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly  
2 set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and  
3 Trademark on February 25, 1997 at 1 195 OG 89.

4 

5 DSF

6 September 10, 2002

  
VINCENT MILLIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600